NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT

Project Title: **Fatigue Management, Rail Operations Personnel - Year II**	
RFP Number: 36	**NJDOT Research Project Manager:** Karl Brodtman, NJDOT
Task Order Number/Study Number: TO-36	**Pincipal Investigator:** Jeng, One-Jang
Project Starting Date: 1/1/2002 **Original Project Ending Date:** 12/31/2003 **Modified Completion Date:** 9/30/2004	**Period Starting Date:** 7/01/2004 **Period Ending Date:** 9/30/2004

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase I : Literature Search	5	0	100	5
Phase II : Research Approach Task 1 : Detailed Literature Search	10	0	100	10
Task 2: Presentation of Literature Findings	5	0	100	5
Task 3: Determine Existing HOS guidelines	25	0	100	25
Task 4: Prepare HOS model for Crew Schedule Assessment and Design Tool	30	10	100	30
Task 5: Prepare a Request for Proposal	15	10	100	15
Task 6: Reporting	10	20	90	9
Final Report				
TOTAL	100 %			99.0 %

Project Objectives:

Project Objective: The primary objectives of this project are to review current fatigue management strategies, evaluate existing hours of service (HOS) guidelines for NJ Transit rail operations personnel and develop a computer interface which can be integrated into NJTransit's existing scheduling software. The results of this project aim at minimizing fatigue for NJ Transit Rail Operation's personnel and are intended to improve safety and reduce the turnover of skilled rail operations personnel in NJ Transit.

Project Abstract:

Operator fatigue is and will continue to be an important safety issue in the railroad industry. In a cover letter submitted along with the Federal Railroad Safety Enhancement Act of 1999 bill to the U. S. House of Representatives and Senate, U.S. Department of Transportation Secretary Rodney E. Slater states that "fatigue hampers the alertness of employees and causes accidents, one of the most pervasive safety issues in the railroad industry" "Fatigue Management Plans" provide scheduling strategies that consider the human body's natural sleep/wake cycles (circadian rhythm) to optimize service and/or production while minimizing costs. Under provisions of the Federal Railroad Safety Enhancement Act

of 1999 bill, Fatigue Management Plans amend the existing hours of service laws under the current United States Code. These changes are aimed at recognizing and reducing on-the-job fatigue and fatigue-caused accidents and injuries.
In its continuing efforts to improve safety and reduce the turnover of skilled operating personnel, NJ Transit, the state principal transit service provider and the New Jersey Department of Transportation (NJDOT) have initiated a project to evaluate NJ Transit's existing Hours of Service (HOS) guidelines and develop a computer model aimed at minimizing operator fatigue. NJ Transit maintains an HOS database for 365 rail engineers and 267 assignments. It is NJ Transit's desire to use this database and compare this to HOS determinations using existing Fatigue Management models. The guidelines developed out of these efforts must be credible and practical in terms of reducing fatigue, meeting applicable rules and regulations, addressing management and staff personnel concerns and meeting current and future demands of NJ Transit's rail passenger customers.

1.Progress this quarter by task:

A draft final report was sent out to NJTransit for comments in August. The research team will modify the draft to finalize the report.

2. Proposed activities for next quarter by task:

Revisions, edits to the Final Report and/or Request for Proposal document, if necessary.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Total Project Budget	$185,598.00
Modified Contract Amount	$0.00
Total Project Expenditure to date	$182,636.00
% of Total Project Budget Expended	98.40%